

REMARKS

Claims 32-51 are pending in the application with claim 36 amended herein and new claims 50 and 51 added herein. Applicants express appreciation for the allowance of claims 32-35 and 40-49 and the indication of claim 38 as setting forth allowable subject matter.

Claims 36, 37, and 39 stand rejected under 35 U.S.C. 102(e) as being anticipated by Agarwal. Applicants request reconsideration.

Amended claim 36 sets forth a capacitor construction that includes, among other features, an insulative barrier layer to oxygen diffusion over a first electrode, the barrier layer including a chemisorption product of first and second precursor monolayers. Page 2 of the Office Action alleges that Agarwal discloses a barrier layer including a chemisorption product of precursor layers in Fig. 7 and column 8, line 46 to column 9, line 12. Such text refers to oxygen annealing a titanium nitride layer having a thickness between about 5 to 50 Angstroms. The oxygen annealing "oxygen saturates" the titanium nitride layer. The Office Action does not provide any indication of what structure in Agarwal is considered to be a first precursor layer and what structure is considered to be a second precursor layer. However, Applicants assert that Agarwal does not disclose, and further does not suggest a barrier layer including a chemisorption product of first and second precursor monolayers. "Monolayer" is defined at least on pages 6-8 of the present specification.

Agarwal does not disclose, and is not alleged to disclose, any monolayers or any methods that those of ordinary skill would reasonably expect to produce a monolayer.

Agarwal further does not disclose a first precursor monolayer combined with a second precursor monolayer to produce a chemisorption product. Clearly, Fig. 7 and column 8, line 46 to column 9, line 12 do not disclose a chemisorption product of first and second precursor monolayers. The titanium nitride layer has a thickness between about 5 to 50 Angstroms and thus is not a monolayer. The titanium nitride layer cannot be considered to disclose a first precursor monolayer. At least for the reasons described above, Agarwal fails to disclose each and every element of claim 36. Accordingly, Agarwal does not anticipate claims 36. Applicants assert that Agarwal further fails to suggest every element of claim 36. Agarwal does not provide any suggestion of a barrier layer including a chemisorption product of first and second precursor monolayers.

Claims 37 and 39 depend from claim 36 and are not anticipated at least for such reason as well as for the additional limitations of such claims not disclosed. Applicants request allowance of claims 36, 37, and 39 in the next Office Action.

New claims 50 and 51 depend respectively from allowed claims 40 and 45. At least for such reason, claims 50 and 51 are also allowable.

Applicants herein establish adequate reasons for patentability of claims 36, 37, and 39. Accordingly, Applicants request allowance of all pending claims 32-51 in the next Office Action.


Applicants previously submitted an Information Disclosure Statement (IDS) on June 14, 2001 along with the filing of the present application. The IDS included a Form PTO-1449 listing several references. However, Applicants have not yet received a copy of the PTO-1449 with the Examiner's initials indicating consideration of the cited references.

Appl. No. 09/882,534

Included herewith, Applicants provide a copy of the IDS for the Examiner's convenience and request return of an initialed copy of the PTO-1449 with the next Office Action.

Respectfully submitted,

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Assignee Micron Technology, Inc.
Group Art Unit 2822
Examiner T. Thomas
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Title: Capacitor Fabrication Methods and Capacitor Constructions

**VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE PRELIMINARY
AMENDMENT ACCOMPANYING A RCE FILING**

In the Claims

The claims have been amended as follows. Underlines indicate insertions and
~~strikeouts~~ indicate deletions.

36. (twice amended) A capacitor construction comprising:
- a first capacitor electrode over a substrate;
 - an insulative barrier layer to oxygen diffusion over the first electrode, the barrier
layer comprising a chemisorption product of first and second precursor monolayers;
 - a capacitor dielectric layer over the first electrode; and
 - a second capacitor electrode over the dielectric layer and the barrier layer.

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